

## WIRELESS CONTROLLER OF A VIDEO GAME PLAYER

This application is a Continuation-In-Part of my patent application, serial No. 10/414,403, filed on April 16, 2003.

### DESCRIPTION

#### BACKGROUND OF THE INVENTION

[Para 1] 1. The field of the invention

[Para 2] The present invention relates to a wireless controller for a video game player, and more particularly relates to a wireless controller for a video game player comprising a wireless receiver and a sound transformer that are connected with a first memory chip receiver of the video game player. A built-in microphone and the amplifier of the wireless receiver allow the user to use the wireless controller to transmit signals and communication with the wireless receiver respectively. Thus without using headset with microphone, the user can control the wireless controller and also communication with the other online player within an effective transmission range.

[Para 3] 2. Description of related art

[Para 4] Nowadays, online game is very popular and all the manufacturers of game players continue developing newer games player for the recreation of online users. For capitalizing the market, the manufacturers of game players provide various peripheral products for facilitating the video game player in view of user friendly control and convenience, for example, some manufacturers have design a headset with microphone in order to allow the user to communicate with other online game players to create more fun for the online users while playing the game.

[Para 5] Referring to Figs. 1A, 1B, 1C and 2, show a conventional video game player. As shown, the video game system A10 (XBox of Microsoft) comprises a controller A20, a sound transformer A30 and a sound device A40. The sound device A40 comprises a headset A41 with a microphone A42 particularly for

the online game. A first memory chip receiver A22 of the controller A20 is for receiving the sound transformer A30 with an external card bus, and the sound transformer A30 is used as a communication medium between the second communication interface A35 and the controller A20. A sound transmission wire A43 is used as a communication medium between a headset A41 with a microphone A42 and a headset jack A34 of the sound transformer A30. Thus a first control circuit A21 and a first communication interface A25 of the controller A20 is able to communicate with the video game system A10. Further, the controller A20 comprises a second memory chip receiver A23 and a button A24, wherein the second memory chip receiver A23 is a prescribed slot and the button A24 is for controlling the game and for switching the functions. The sound transformer A30 comprises a second control circuit A31, a volume control button A32 and a microphone switch A33. The volume control button A32 is for controlling the volume of the headset A41 and the microphone switch A33 is for turning the microphone A42 on or off through the second control circuit A31.

**[Para 6]** However, the above conventional video game player has several defects as follows.

**[Para 7]** 1. The specifications of the headset A41 and the microphone A42 are different from the one available in the market, and therefore the user has to purchase the video game player together with sound transformer A30 as a set if any one of the headset A41 or microphone A42 is out of order. Therefore, it is expensive for the user to replace the whole video game player.

**[Para 8]** 2. The headset A41 and the microphone A42 need be communicate with the sound transformer A30 through the sound transmission wire A43, thus could case inconvenience to the user, for example, entanglement of the sound transmission wire A43 and/or limited length of the sound transmission wire A43, while using the controller A20.

**[Para 9]** 3. The headset A41 and the microphone A42 are directly held on the user's ear, this would be uncomfortable to the user after long-hour usage due to the weight of the headset A41 and the microphone A42.

[Para 10] 4. The user is unable to move freely because of the sound transmission wire A43 and the controller transmission wire.

[Para 11] 5. The user is unable to control the volume and turning the microphone A42 on or off instantly, thus the fun of playing by such controller A20 will not be as much as desired.

[Para 12] Therefore, it is highly desirable to improve the video game player in order to overcome the above defects of the prior art.

## SUMMARY OF THE INVENTION

[Para 13] Accordingly, in the view of the foregoing, the present inventor makes a detailed study of related art to evaluate and consider, and uses years of accumulated experience in this field, and through several experiments, to create a new wireless controller for video game player. The present invention provides an innovated cost effective wireless controller for video game player, which would allow the user to control the controller wirelessly within an effective range providing great convenience and recreation to the user while playing the game.

[Para 14] According to an aspect of present invention, the connection to the wireless controller is accomplished in an orderly fashion, wherein signals input by a button on the wireless controller is transmitted in an orderly fashion to a third control circuit, a second wireless receiving/transmitting circuit and a first wireless receiving/transmitting circuit. The signal is further transmitted to a first control circuit, and then finally transmitted to a video game system through the first communication interface. The wireless controller is used for transmitting the signal and control the wireless receiver wirelessly. Further, the wireless controller has a button for controlling the volume of the amplifier and for turning the microphone of the wireless receiver on or off. Therefore, the user need not hold the wired controller or wear the headset with microphone to play the game for communicating with the other players.

## BRIEF DESCRIPTION OF THE DRAWING

[Para 15] For a more complete understanding of the present invention, reference will now be made to the following detailed description of preferred embodiments taken in conjunction with the following accompanying drawings.

[Para 16] Fig. 1A is an elevational view of a conventional video game player with a headset.

[Para 17] Fig. 1B is an elevational view of a controller and a sound transformer of the conventional video game player.

[Para 18] Fig. 1C is an perspective view of a headset of the conventional video game player.

[Para 19] Fig. 2 is an actual functioning flow chart of the video game player according to the prior art.

[Para 20] Fig. 3 is the elevational view of a video game player of the present invention.

[Para 21] Fig. 4 is an actual functioning flow chart of the video game player according to an embodiment of the present invention.

[Para 22] Fig. 5 is an actual functioning flow chart of the video game player according to another embodiment of the present invention.

## DETAIL DESCRIPTION OF EMBODIMENTS

[Para 23] Referring to Fig. 3 and Fig. 4, the wireless controller for a video game player of the present invention comprises a video game system 10 and a wireless receiver 50, wherein the video game system 10 is connected to the wireless receiver 50. The wireless receiver 50 is for receiving a sound transformer 30. The wireless receiver 50 comprises a first communication interface 55 for connecting with the video game system 10, and a first control circuit 51 is conjunct with the first communication interface 55. The first control circuit 51 comprises a first memory chip receiver 52, a second memory chip receiver 53, a first wireless receiving/transmitting circuit 54, an amplifier 56 and a microphone 57. The first memory chip receiver 52 is connected to a second communication interface 35 of the sound transformer 30, and the first

wireless receiving/transmitting circuit 54 is connected to a second wireless receiving/transmitting circuit 61 of a wireless controller 60 for signal communication.

**[Para 24]** The sound transformer 30 comprises a second control circuit 31, a volume control button 32, a microphone switch 33, a headset jack 34 and the second communication interface 35 connecting with the second control circuit 31, wherein the headset jack 34 is connected with the first control circuit 51 of the wireless receiver 50 through a sound transmission wire 43.

**[Para 25]** The wireless controller 60 comprises a third control circuit 62, the second wireless receiving/transmitting circuit 61, buttons 63, a microphone switch 64 and a volume control button 65, wherein the second wireless receiving/transmitting circuit 61, the buttons 63, the microphone switch 64 and the volume control button 65 are connected to the third control circuit 62.

**[Para 26]** As described above, the wireless receiver 50 is connected to the video game system 10, and the first memory chip receiver 52 of the wireless receiver 50 is for receiving the sound transformer 30 and the headset jack 34 is connected with the sound first control circuit 51 of the wireless receiver 50 through the sound transmission wire 43.

**[Para 27]** The actual functioning of the wireless controller for a video game player of the present invention will now be described as follows. The signals input by the buttons 63 on the wireless controller 60 is transmitted in an orderly fashion to the third control circuit 62, the second wireless receiving/transmitting circuit 61 and the first wireless receiving/transmitting circuit 54, the signal is further transmitted to the first control circuit 51, and then finally transmitted to the video game system 10 through the first communication interface 55.

**[Para 28]** Furthermore, the wireless controller 60 comprises the microphone switch 64 and the volume control button 65 for turning the microphone 57 on or off and for adjusting the amplifier 56 of the wireless receiver 50 respectively. When the user adjusts the microphone switch 64 or the volume control button 65, the signal will be transmitted by the third control circuit 62 and the second wireless receiving/transmitting circuit 61 to the first wireless

receiving/transmitting circuit 54 of the wireless receiver 50, then to the first control circuit 51 to finally control the microphone 57 or the amplifier 56 as desired.

**[Para 29]** The user can also adjust the microphone 57 and the amplifier 56 of the wireless receiver 50 by operating the volume control button 32 and the microphone switch 33 that is set on the sound transformer 30. When the user operates the volume control button 32 and the microphone switch 33, the signal is transmitted to the headset jack 34 through the second control circuit 31, then to the first control circuit 51 through the sound transmission wire 43, to control the amplifier 56 and the microphone 57 respectively.

**[Para 30]** Furthermore, the first control circuit 51 comprises an auto-gain circuit 511, an echo canceling circuit 512, a volume control circuit 513 and a microphone control circuit 514. The auto-gain circuit 511 is for balancing the over-loud or over-low volume, and the echo canceling circuit 512 is for canceling the cross-talk. The volume control circuit 513 is for controlling the volume of the amplifier 56, and the microphone control circuit 514 is for controlling the microphone 57 to receive sound signal.

**[Para 31]** Referring to Figs. 3 and 5, the wireless controller for a video game player comprises a video game system 10 and a wireless receiver 50, wherein the video game system 10 is connected to the wireless receiver 50. The wireless receiver 50 is for receiving a sound transformer 30.

**[Para 32]** The wireless receiver 50 comprises a first communication interface 55 for connecting with the video game system 10, and a first control circuit 51 is conjunct with the first communication interface 55. The first control circuit 51 comprises a first memory chip receiver 52, a second memory chip receiver 53, a first wireless receiving/transmitting circuit 54, a digital/analogue converter 56 and an analogue/digital converter 57. The first communication interface 55 is connected to the first control circuit 51 and the video game player 10. The first control circuit 51 is connected to the first memory card slot 52, the second memory card slot 53, the first wireless receiving/transmitting circuit 54, the digital/analogue converter 58 and the analogue/digital converter 59. The first memory chip receiver 52 is connected

to a second communication interface 35 of the sound transformer 30, and the first wireless receiving/transmitting circuit 54 is connected to a second wireless receiving/transmitting circuit 61 of a wireless controller 60 for signal communication.

[Para 33] The sound transformer 30 comprises a second control circuit 31, a volume control button 32, a microphone switch 33, a headset jack 34 and the second communication interface 35 connecting with the second control circuit 31, wherein the headset jack 34 is connected with the digital/analogue converter 56 and the analogue/digital converter 57 of the wireless receiver 50 through a sound transmission wire 43.

[Para 34] The wireless controller 60 comprises a third control circuit 62, the second wireless receiving/transmitting circuit 61, a button 63, a microphone switch 64, a volume control button 65, a digital/analogue converter 68 and an analogue/digital converter 69, wherein the digital/analogue converter 68 and the analogue/digital converter 69 are connected to an amplifier 66 and a microphone 67 respectively.

[Para 35] As described above, the wireless receiver 50 is connected to the video game system 10, and the first memory chip receiver 52 of the wireless receiver 50 is for receiving the sound transformer 30 and the headset jack 34 is connected with the digital/analogue converter 56 and the analogue/digital converter 57 of the wireless receiver 50 through the sound transmission wire 43.

[Para 36] The actual functioning of the wireless controller for a video game player of the present invention will now be described as follows. The signal input by the button 63 of the wireless controller 60 is transmitted in an orderly fashion to the third control circuit 62, the second wireless receiving/transmitting circuit 61 and the first wireless receiving/transmitting circuit 64 of the wireless receiver 50, the signal is further transmitted to the first control circuit 51, and then finally transmitted to the video game system 10 through the first communication interface 55.

[Para 37] Besides, the wireless controller 60 comprises the microphone switch 64 and the volume control button 65 for turning the microphone 67 on or off

and for adjusting the amplifier 66 respectively. When the user adjusts the microphone switch 64 or the volume control button 65, the signal will be transmitted by the third control circuit 62 to control the microphone 67 or the amplifier 66 as desired.

[Para 38] The user can also adjust the microphone 67 and the amplifier 66 of the wireless controller 60 by operating the volume control button 32 and microphone switch 33 that is set on the sound transformer 30. When the user operates the volume control button 32 and the microphone switch 33, the signal is transmitted to the headset jack 34 through the second control circuit 31, then to the first control circuit 51 through the sound transmission wire 43, and the first wireless receiving/transmitting circuit 54 further transmits the signal to the second wireless receiving/transmitting circuit 61 of the wireless controller 60, and thereby enable the third control circuit 62 to control the volume of the amplifier 66 and turn on/off the microphone 67.

[Para 39] Furthermore, the third control circuit 62 comprises an auto-gain circuit 621, an echo canceling circuit 622, a volume control circuit 623 and a microphone control circuit 624. The auto-gain circuit 621 is for balancing the over-loud or over-low volume, and the echo canceling circuit 622 is for canceling the corss-talk. The volume control circuit 623 is for controlling the volume of the amplifier 66, and the microphone control circuit 624 is for controlling the microphone 67 to receive sound signal.

[Para 40] To operate the amplifier 66 and the microphone 67 of the wireless controller 60 of the present invention, the digital/analogue converter 68 converts a digital signal transmitted by the third control circuit 62 into an analogue signal and this analogue signal is transmitted to the amplifier 66; and the analogue/digital converter 69 converts the analogue signal received by the microphone 67 into the digital signal and then transmitted to the third control circuit 62.

[Para 41] While the invention has been described in conjunction with a specific best mode, it is to be understood that many alternatives, modifications, and variations will be apparent to those skilled in the art in light of the foregoing description. Accordingly, it is intended to embrace all such



alternatives, modifications, and variations in which fall within the spirit and scope of the included claims. All matters set forth herein or shown in the accompanying drawings are to be interpreted in an illustrative and non-limiting sense.